

# Work Order ID 86682

\*86682\*

Page 1

July-06-12 11:24:07 AM

Item ID: D3199-1 Accept \*N900040100\* Setup Start \*NS1\*  
 Revision ID: Stop \*NS2\*  
 Item Name: Bracket  
 Start Date: 7/06/12 Start Qty: 30.00 \*30\* Cust Item ID:  
 Required Date: 8/03/12 Req'd Qty: 30.00 \*30\* Customer:  
 Reference:

Approvals: Process Plan: P Date: 12-07-9 Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_  
 Run Start \*NR1\*  
 Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D3199	E

100	FLOW WATER JET	0.00							
*100*									
Waterjet	Memo	0.00							
FLOW CNC Waterjet	Cut as per Dwg D3199								
304 .040	Dwg Rev: <u>F</u>								
	Prog Rev: <u>P</u>								
	Deburr if required								
110	QC2- Inspect parts off machine FAI/FAIB	0.00							
*110*									
QC	Memo	0.00							
Quality Control									

30 0 Jm 12-7-17  
 30 0 Jm 12-7-17

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 86682

**\*86682\***

Page 2

July-06-12 11:24:07 AM

Item ID: D3199-1

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Bracket

Start Date: 7/06/12

Start Qty: 30.00

**\*30\***

Cust Item ID:

Required Date: 8/03/12

Req'd Qty: 30.00

**\*30\***

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start **\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop **\*NR2\***

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

120

QC8- Inspect parts - second check

0.00

**\*120\***

QC

Memo

0.00

Quality Control

130

Small Fab

0.00

**\*130\***

Small Fab

Memo

0.00

Small Fab

Form as per dwg D3199 use DT9723

140

QC5- Inspect part completeness to step on W/O

0.00

**\*140\***

QC

Memo

0.00

Quality Control

DAS 16 2-89 12/17

DAS 16 2-89 12/17

counts  
x30

So 12/17/12

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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**NOTE:** Date & initial all entries

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Page 3

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 Revision ID: Stop \*NS2\*  
 Item Name: Bracket  
 Start Date: 7/06/12 Start Qty: 30.00 \*30\* Cust Item ID:  
 Required Date: 8/03/12 Req'd Qty: 30.00 \*30\* Customer:  
 Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start \*NR1\*  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150 *150* Powdercoat Powder Coating M121279	Grey Sandtex(Ref:4.3.5.6) per QSI005 4.3  Memo START TIME: 11:45 OVEN TEMPERATURE: 320 °F FINISH TIME: 12:15	0.00				30x ✓			M-A 12/07/25
160 *160* QC Quality Control	QC3- Inspect Part Finish  Memo	0.00				30x ✓			B4/27-25
170 *170* Packaging Packaging	Identify as per dwg & Stock Location: 8236  Memo	0.00				30x			SP 12-7-26

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Work Order ID 86682****\*86682\***

Page 4

July-06-12 11:24:07 AM

Item ID: D3199-1

Accept

**\*N900040100\***Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Bracket

Start Date: 7/06/12

Start Qty: 30.00

**\*30\***

Cust Item ID:

Required Date: 8/03/12

Req'd Qty: 30.00

**\*30\***

Customer:

Reference:

Approvals:

Process Plan: \_\_\_\_\_

Date: \_\_\_\_\_

Tooling: \_\_\_\_\_

Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_

Date: \_\_\_\_\_

SPC (Y/N): \_\_\_\_\_

Date: \_\_\_\_\_

Stop **\*NR2\***Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

180

QC21- Final Inspection - Work Order Release

0.00

**\*180\***

QC

Memo

0.00

Quality Control

MLJ 12/07/26

MLJ 12/07/26

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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**NOTE:** Date & initial all entries



# Picklist Print

July-06-12 11:24:06 AM

Page 1

Work Order ID: 86682

Parent Item: D3199-1

Parent Item Name: Bracket

Start Date: 7/06/12

Required Date: 8/03/12

Start Qty: 30.00

Required Qty: 30.00

Comments: IPP Rev:C Removed Scribing 05-11-05 JLM  
 IPP Rev:D As per Rev B 06-11-24 JLM IPP Rev:E 11.03.31 as per ecn 11-  
 531 DD verf:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M304S20GA 304/316 .040 Sheet		Purchased	No			100	sf	297.8693	0.099	3.126315 3.25			

Location	Loc Qty	Loc Code
001	52.4914105	
121192	52.4914105	
MAT020	245.377922	
117933	27.3442	
118400	5.3723	
118964	23.2	
119346	24.8	
121380	49.761422	
121901	114.9	

21901

Jm-12-7-12

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



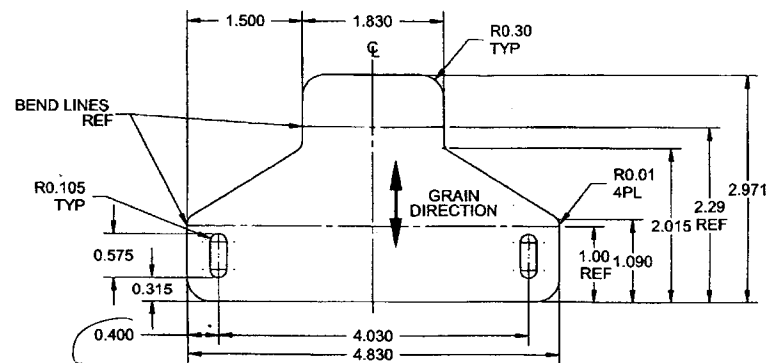
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

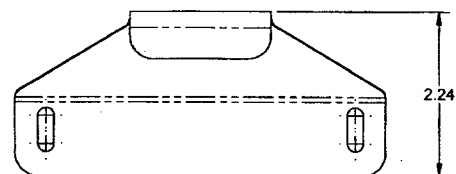
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NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

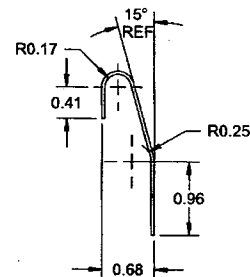
**NOTE:** Date & initial all entries



**D3199-1F FLAT PATTERN**



**D3199-1 BRACKET**  
MADE FROM D3199-1F



SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 86652

**RELEASED**  
2011-07-18  
*MP*

E	RE-DESIGNED D3199-3/4-3F PER CUSTOMER FEEDBACK TO OPTIMIZE FIT.	MB	11.07.11
D	RE-DESIGNED D3199-3/4-3F PER CUSTOMER FEEDBACK TO ELIMINATE BINDING OF DOOR ONCE BRACKETS ARE INSTALLED. REF.: PART11-79	MB	11.03.21
C	ADD -3/4 PART (SHEET 2-4)	HS	09.11.19
B	2.24 WAS 2.142; ADD FINISH; UPDATE DWG	CB	06.11.01
A	NEW ISSUE	CP	03.08.05
REV.	DESCRIPTION	BY	DATE
DESIGN	<i>gp</i>	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	<i>gp</i>		
CHECKED	<i>gp</i>	DRAWING NO.	REV. E
MFG. APPR.	<i>gp</i>	D3199	SHEET 1 OF 4
APPROVED	<i>gp</i>	TITLE	SCALE
DE APPR.	<i>gp</i>	BRACKET	NTS
DATE	11.07.11	<small>COPYRIGHT © 2003 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR TRANSMITTED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

- NOTES:
- 1) MATERIAL: AISI 304/316 SS SHEET, 0.040 THICK, ANNEALED, 2B FINISH  
PER MIL-S-5059, OR AMS 5513 (304) OR AMS 5524 (316) OR ASTM A240 OR ASME SA240  
REF DART SPEC M304S20GA
  - 2) FINISH: POWDER COAT "GREY SANDEXT" (4.3.5.6) PER DART QSI 005 4.3
  - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
  - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
  - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
  - 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3199-X" AND B/N "BXXXXX" PER QSI 044 6.1
  - 7) WEIGHT: D3199-1 = 0.11 lbs, D3199-3/4 = 0.26 lbs EACH

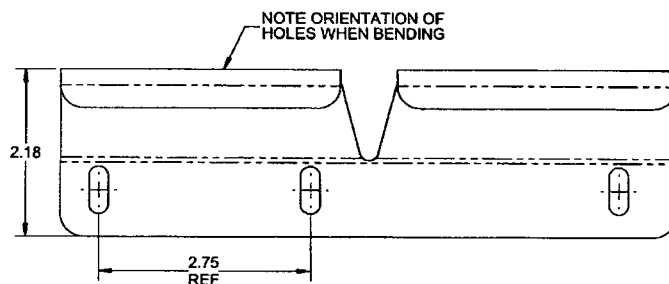
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

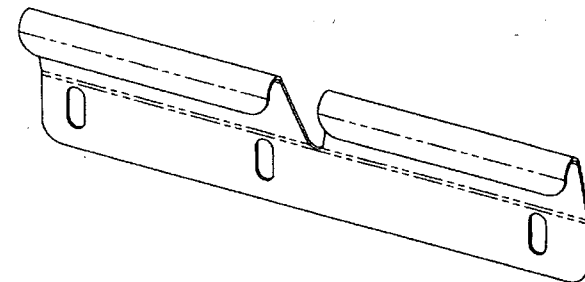
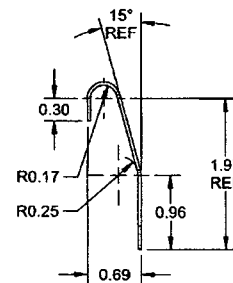
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries









**D3199-3 BRACKET**  
MADE FROM D3199-3F



86682

RELEASED  
11 2011-07-18  
MP

DESIGN		<b>DART AEROSPACE LTD</b>	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. E
MFG. APPR.		D3199	SHEET 2 OF 4
APPROVED		TITLE	SCALE
DE APPR.		BRACKET	NTS
DATE	11.07.11	COPYRIGHT © 2003 BY DART AEROSPACE LTD	
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# Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

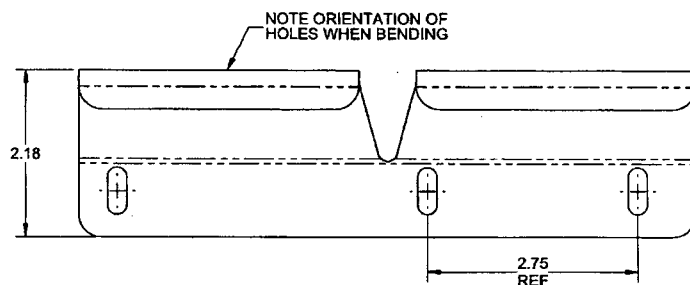
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

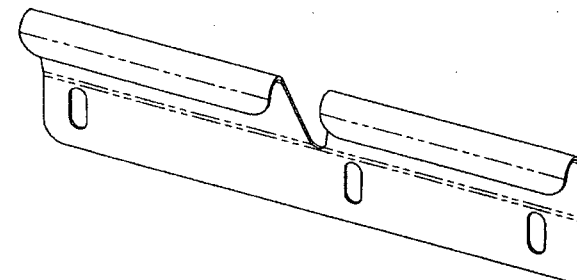
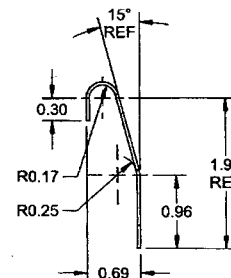
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries





**D3199-4 BRACKET**  
MADE FROM D3199-3F



86682

RELEASED  
2011-07-18  
JW

DESIGN		<b>DART AEROSPACE LTD</b>	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. E
MFG. APPR.		D3199	SHEET 3 OF 4
APPROVED		TITLE	SCALE
DE APPR.		BRACKET	NTS
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W/O:		WORK ORDER CHANGES					
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Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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8 7 6 5 4 3 2 1

D

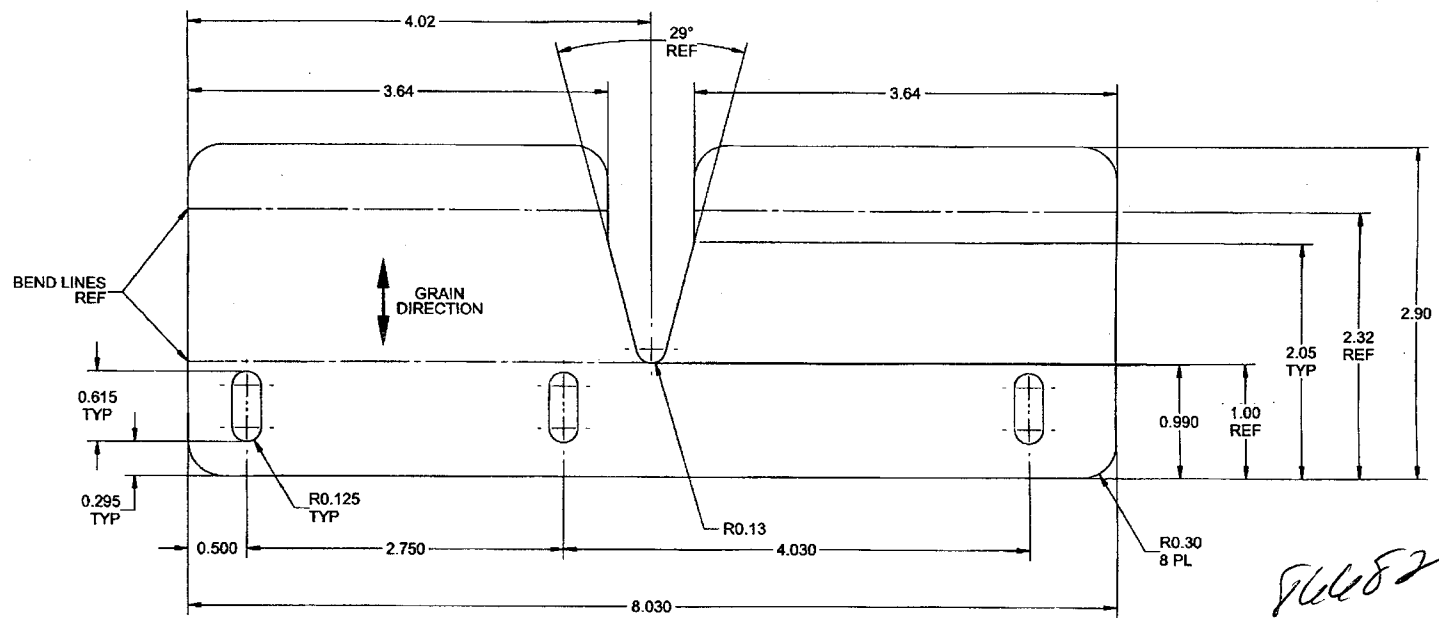
D

C

C

B

B



*Handwritten signature/initials*

**D3199-3F FLAT PATTERN**

**RELEASED**  
2011-07-18  
*Handwritten initials*

**NOTES:**

- 1) MATERIAL: AISI 304/316 SS SHEET, 0.040 THICK, ANNEALED, 2B FINISH  
PER MIL-S-5059, OR AMS 5513 (304) OR AMS 5524 (316) OR ASTM A240 OR ASME SA240  
REF DART SPEC M304S20GA
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.25 lbs

DESIGN		<b>DART AEROSPACE LTD</b>
DRAWN		HAWKESBURY, ONTARIO, CANADA
CHECKED		DRAWING NO. <b>D3199</b>
MFG. APPR.		REV. E
APPROVED		SHEET 4 OF 4
DE APPR.		TITLE <b>BRACKET</b>
DATE	<b>11.07.11</b>	SCALE <b>NTS</b>
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8 7 6 5 4 3 2 1

W/O:		WORK ORDER CHANGES					
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